



Maine Department of Health and Human Services
Bureau of Health
Division of Disease Control



Maine Epi-Gram

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Influenza Vaccine: Recommendations and Distribution in Maine 2004-2005

The 2003-2004 influenza season began earlier than most seasons, peaked in December, and was moderately severe in terms of its impact on US mortality. That season was also notable for an unprecedented demand for vaccine, caused in part by increased media attention. This heightened demand led to shortages of vaccine in many regions of the country. Fortunately, because of a streamlined vaccine ordering and distribution process, the Maine Immunization Program (MIP) was able to anticipate the overall statewide needs for those at highest risk for influenza before the flu season began, and met increased demands in a timely fashion. For the upcoming 2004-2005 flu season, MIP will continue its efforts to make vaccine available to those most at risk in Maine. The following text summarizes new vaccination recommendations developed this year by the National Advisory Committee on Immunization Practices (ACIP) and outlines MIP's plans for vaccination distribution.

ACIP Recommendations

Influenza vaccination is the primary method for preventing influenza and its severe complications. In preparation for the next influenza season, ACIP released a revised set of vaccination guidelines in May 2004 (<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5306a1.htm>). These new guidelines are broader than prior recommendations to protect more people from influenza-related morbidity and mortality. The revised 2004 recommendations include the following changes:

- The 2004-05 trivalent vaccine virus strains are A/Fujian/411/2002 (H3N2)-like, A/New Caledonia/20/99 (H1N1)-like, and B/Shanghai/361/2002-like antigens. For the A/Fujian/411/2002 (H3N2)-like antigen, manufacturers may use the antigenically equivalent A/Wyoming/3/2003 [H3N2] virus, and for the B/Shanghai/361/2002-like antigen, manufacturers may use the antigenically equivalent B/Jilin/20/2003 virus or B/Jiangsu/10/2003 virus.
- Healthy children aged 6-23 months, and close contacts of children aged 0-23 months, should be vaccinated against influenza.
- Inactivated vaccine is preferred over live, attenuated influenza vaccine (LAIV) for vaccinating household members, health-care workers, and others who have close contact with severely immunosuppressed persons during periods when such persons require care in a protected environment. If a health-care worker receives LAIV, the health-care worker should refrain from contact with immunosuppressed

patients for 7 days after vaccine receipt. No preference exists for inactivated vaccine use by health-care workers or other persons who have close contact with persons with lesser degrees of immunosuppression.

As in past years, the recommendations list the following groups at high risk for serious complications from influenza who should be targeted for vaccination. These groups include:

- persons aged ≥ 65 years;
- residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions;
- adults and children who have chronic disorders of the pulmonary or cardiovascular systems, including asthma;
- adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV]);
- children and adolescents (aged 6 months-18 years) who are receiving long-term aspirin therapy and, therefore, might be at risk for experiencing Reye syndrome after influenza infection;
- women who will be pregnant during the influenza season; and
- children aged 6-23 months.

In addition, CDC recommends that health-care workers be vaccinated against influenza annually, including the following groups:

- physicians, nurses, and other personnel in both hospital and outpatient-care settings, including medical emergency response workers (e.g., paramedics and emergency medical technicians);
- employees of nursing homes and chronic-care facilities who have contact with patients or residents;
- employees of assisted living and other residences for persons in groups at high risk;
- persons who provide home care to persons in groups at high risk; and
- household contacts (including children) of persons in groups at high risk.

Inactivated influenza virus vaccines, distributed in single-dose syringes as “preservative free” contain only trace amounts of thimerosal as a residual from early manufacturing steps. For the 2004-05 influenza season, 6-8 million single-dose syringes of inactivated influenza virus vaccine without thimerosal as a preservative will likely be available. This represents a substantial increase in the available amount of inactivated influenza vaccine without thimerosal as a preservative, compared with approximately 3.2 million doses that were available during the 2003-04 influenza season.

Both the inactivated influenza vaccine and LAIV can be used to reduce the risk of influenza. LAIV is only approved for use among healthy persons aged 5-49 years. Inactivated influenza vaccine is approved for persons aged ≥ 6 months, including those with high-risk conditions. Also, LAIV is much more expensive than inactivated vaccine. Because LAIV is not recommended for high-risk populations, which are the focus of MIP, and due to high cost, MIP will not purchase and distribute LAIV in the 2004-2005 influenza season.

MIP Vaccine Distribution for the 2004-2005 flu season

MIP will closely follow the above recommendations when distributing vaccine during the upcoming flu season. Highlights of this process are outlined below:

- For the 2004-2005 season, MIP will continue its commitment to provide universal coverage for all children regardless of Vaccine for Children (VFC) Program eligibility status. This will be achieved by packaging federal funding with funds procured through a partnership with the Maine HMO Council.
- MIP is currently in the process of communicating with provider sites about their anticipated influenza pediatric and adult allotments. Given the scarcity of vaccine funding, management of the ordering and distribution process is extremely rigorous; close management by program staff have succeeded in minimizing Maine's vaccine wastage to below 4% for all vaccines, which is well below the national average. In the past, vaccine availability has been based on previous year's usage. Because this is the first year of the new pediatric recommendation and there is no existing benchmark of childhood

influenza vaccine usage in the State, MIP staff work closely with providers on initial projections and actual usage throughout the season. To ensure availability of vaccine at all sites, timely and complete provider reporting to the MIP is critical. MIP staff are available to assist at any time with this process.

- As in past years, adult influenza vaccine can be ordered for high-risk populations through MIP.

If you have any questions, please call MIP at (800) 867-4775.

Reference:

MMWR. Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP), May 28, 2004.

(Internet address: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5306a1.htm>).



Contributed by Jiancheng Huang

Tuberculosis Outbreak in Maine's Homeless Population

Between June, 2002 and December, 2003, the Maine Department of Human Services' Bureau of Health received case reports of seven persons with active pulmonary tuberculosis (TB), linked by genotyping and/or by residence at a Portland homeless shelter or the county jail. Three of the patients had cavitary pulmonary disease, a condition associated with increased infectiousness. The seven cases occurred among U.S.-born substance-abusing males. One case was co-infected with human immunodeficiency virus (HIV) and three were co-infected with hepatitis C. Five of the cases have completed antimicrobial therapy and two are expected to complete treatment in the coming weeks.

Five of the seven cases were linked by genotyping to one index case. The index case was believed to have been infectious (active pulmonary disease) for more than two years prior to diagnosis. During his infectious period, the patient was symptomatic and had more than 40 interactions with health care providers, none of whom diagnosed tuberculosis. Early diagnosis could have averted a public health outbreak which has been enormously expensive in terms of human and fiscal resources and has resulted in significant exposure among shelter residents and staff.

With support from the federal Centers for Disease Control and Prevention (CDC), an extensive contact investigation was conducted. More than 1,000 contacts to the seven active cases were identified. Contacts designated as "high priority" (> 7 nights of exposure) received a tuberculin skin test at the time of exposure and 12 weeks post-exposure, chest x-ray, sputum smear/culture and evaluation by a medical provider. Other contacts (< 7 nights of exposure) received a tuberculin skin test at the time of exposure and 12 weeks post-exposure. All contacts with positive skin tests received a chest x-ray, sputum smear/culture and evaluation by a medical provider.

Locating members of this marginalized, transient population has been extraordinarily resource and time-intensive. Staff of the Maine Bureau of Health and Portland Public Health Division continue to locate and

evaluate exposed contacts. The two health departments have mobilized the resources of Maine's statewide public health nurses' and Tuberculosis Consultant's network, correctional staff and shelter providers to locate, screen and evaluate contacts and to ensure that all infected contacts are completely evaluated and treated.

Of 1,070 contacts, 65% received at least one tuberculin skin test and more than 100 individuals were identified as candidates for treatment of latent TB infection. Twenty-three of these were contacts of the index case. More than half of the individuals diagnosed with latent TB infection are currently receiving treatment and/or medical monitoring. Most of these individuals are homeless, substance abusing individuals who are residentially transient and who are difficult to engage in treatment. City and State health departments have collaborated extensively to promote treatment adherence in this challenging population.

The following strategies have been utilized to help contain the TB outbreak:

1. **"Think TB" Campaign:** The Maine Bureau of Health utilized the Health Alert Network (HAN), targeted mailings and statewide medical provider meetings to heighten awareness of tuberculosis as a differential diagnosis in patients who present (especially in emergency rooms, where most homeless persons seek care) with persistent cough, hemoptysis, chest pain, night sweats and/or weight loss. A low index of suspicion for TB is critical in evaluating sheltered adults for whom homelessness is a well established risk factor for tuberculosis infection. In addition, heightened provider awareness of the link between homelessness and tuberculosis infection may assist public health workers in identifying and locating contacts who have been lost to follow-up despite extensive efforts to find them.
2. TB-related needs assessments were conducted in 24 of the State's 42 homeless shelters. The assessments are ongoing. Early data indicates that for the shelters assessed to date:
 - 50% do not require tuberculin skin testing for staff;
 - 70% do not require skin testing of guests;
 - 75% do not have regular access to nursing coverage;
 - 63% would like assistance with TB education; and
 - 58% shelters actively observe shelter guests for symptoms of cough.
3. **TB Shelter Work Group:** A work group comprised of shelter providers, Portland Public Health Division and Bureau of Health staff was convened to identify barriers to tuberculosis prevention and case-finding in Maine's homeless shelters and to "brainstorm" solutions. The work of the group is summarized in the document, "Recommendations for TB Prevention and Control in Maine's Homeless Shelters." The document is in final draft form, and is targeted for distribution in August, 2004. Recommendations include:
 - Identification of a staff public health liaison at each shelter;
 - Tuberculin skin testing of shelter staff at hire and then annually;
 - Exploration of resources and feasibility of routine skin-testing for shelter guests (guests should not be excluded from shelter services due to unknown skin test results);
 - Symptom screening of shelter guests ("cough logs");
 - Promotion of "cough etiquette" for shelter guests and staff;
 - Medical evaluation and close monitoring of shelter guests who are symptomatic or who are diagnosed with latent tuberculosis infection;
 - Education about tuberculosis for shelter staff (at least annually).
4. TB educational sessions are being conducted by public health nurses and regional epidemiologists in shelters, statewide. Symptom screening and accessing medical evaluations for symptomatic shelter guests have been highlighted in educational sessions. A formalized presentation, targeted to shelter staff, has been developed and is available through the Bureau of Health.
5. Correctional settings were included in the spring "Think TB" mailing. Close collaboration between the TB Program and correctional facilities has been prioritized. The importance of symptom screening, tuberculin skin testing and prompt reporting of suspects and cases are areas of critical interest.

Discussion

Homeless persons are at increased risk for tuberculosis due to crowded living conditions and poor nutritional status. Many have suppressed immunity due to substance abuse or to the presence of infections such as HIV. Epidemiological research has shown that 10% of individuals who are infected with latent tuberculosis infection will develop active disease at some time during their lives. Immuno-suppressed individuals have a higher rate of progression from latent to active disease. Early identification and treatment of latent tuberculosis infection in the homeless population is critical to limiting transmission in this vulnerable population.

Because only ten cases of tuberculosis had been diagnosed among homeless individuals in Maine in the ten years prior to 2002, medical providers do not have a heightened awareness of TB among the population. The delay in diagnosing the index case resulted in an extended infectious period, during which time more than 500 individuals were exposed and significant transmission of tuberculosis occurred.

In 2002, shelter providers also had limited awareness of tuberculosis and its symptoms, therefore widespread symptom screening and/or skin testing had not been institutionalized in shelter settings. Most shelter programs in Maine do not have adequate resources to screen and evaluate their guests. Sleeping conditions in shelters are often crowded and ventilation is poor. Behavioral barriers among the population, including substance abuse and housing instability, pose significant challenges to achieving and maintaining healthy behaviors and accessing health care. Homeless adults frequently migrate between correctional and shelter settings, but communication avenues between shelter and correctional settings had not been established at the time of the outbreak.

The Maine Bureau of Health is collaborating with state/local human services agencies, local health departments and community partners to ameliorate the conditions that led to the outbreak in tuberculosis among Portland's homeless community. Current efforts to address these deficiencies continue to tax public health resources. It is only through the merging of science and epidemiology with the broader medical and social services community that this tuberculosis outbreak will eventually be contained and future outbreaks prevented.



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find further information.

Contributed by Suzanne Gunston

Late HIV Diagnoses Common in Maine

Between 1998 and 2002, more than 200 people in Maine were newly diagnosed with HIV. Of these, almost half (46%) received AIDS diagnoses within one year of their first positive HIV test. Because it can take 10 years or longer for an HIV-infected person to progress to AIDS, individuals who receive AIDS diagnoses at or near the time of their initial HIV diagnosis are considered to be "late testers" who have likely lived with the virus for many

years before learning of their HIV status. Maine data are similar to results of national data, which indicate that approximately 41% of people diagnosed with HIV between 1994 and 1999 received an AIDS diagnosis within one year of their HIV diagnosis.

If left undetected and untreated, HIV has dire health consequences for both individual patients and society as a whole. Without knowledge of HIV serostatus, infected individuals do not receive appropriate medical treatment and may miss out on potentially life-saving HIV therapies. In addition, people living with undiagnosed HIV may unknowingly infect sexual or needle-sharing partners. The Centers for Disease Control and Prevention estimates that more than half of all new HIV infections in the US are caused by persons unaware of their HIV infection, further underscoring the importance of identifying and testing people unknowingly infected with HIV.

The vast majority of late testers in Maine (92%) diagnosed between 1998 and 2002 received their diagnoses in a hospital or private physician's office, and not in a state-funded testing clinic. This reflects the fact that these individuals are often diagnosed because of illness, and therefore visit physician offices or seek emergency care. Such patients may be either unaware or unwilling to acknowledge a history of behaviors that put them at risk for HIV. Late testers had varied risk histories, ages and genders, and lived in both rural and urban settings.

The sizeable proportion of late HIV diagnoses in recent years indicates a need for more timely identification of HIV-infected people in Maine. Because those infected with HIV may remain free of symptoms for many years, it is essential that health care providers working in primary care settings screen their patients for HIV risk. Such screenings should include questions about sexual behavior, including the number and gender of sex partners, history of drug use, and history of infection with other sexually transmitted diseases. When screening patients for HIV risk, it is important that questions be posed in a frank, non-judgmental manner. All at-risk patients should receive voluntary HIV testing.

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-- Contributed by Mark Griswold

Hepatitis C Screening Recommendations

Hepatitis C virus [HCV] is the most common bloodborne infection in the United States, with nearly 4 million persons demonstrating evidence of infection. Conservative estimates suggest 20,000 people in Maine have been exposed to the virus. However, fewer than 10 percent of those infected are aware of their status. A survey of Maine medical providers conducted in 2001 indicated a need for increasing awareness of HCV risk factors and testing recommendations, as well as a need for clear guidelines on serology interpretation. Given that hepatitis C infection is the leading indication for liver transplantation in the U.S. and a major cause of debilitating disease, it is essential that persons at-risk be tested and counseled about how to reduce the progression of the disease and how to prevent transmission to others.

The Centers for Disease Control and Prevention Recommendations for Testing Based on Risk for HCV Infection are listed below:

PERSONS	RISK OF INFECTION	TESTING RECOMMENDED?
Injecting drug users (ever)	High	Yes
Recipients of clotting factors made before 1987	High	Yes
Long-term hemodialysis patients	Intermediate	Yes
Recipients of blood and/or solid organs before July 1992*	Intermediate	Yes
People with signs or symptoms of liver disease (e.g. abnormal ALT)	Intermediate	Yes
Infants born to infected mothers	Intermediate	After 12-18 months old
Healthcare/public safety workers	Low	Only after known exposure
People having sex with multiple partners	Low	No**
People having sex with an infected steady partner	Low	No**

*Persons who were notified that they received blood from a donor who later tested positive for hepatitis C should also be tested.

**Testing may be done based on provider evaluation of risk

For initial serological screening, the HCV antibody EIA (enzyme immunoassay) test is recommended. If it is positive, it should be followed with a qualitative test for HCV RNA (PCR). Detailed guidance on the HCV diagnostic workup is available online from the American Association for the Study of Liver Diseases:

<https://www.aasld.org/eweb/docs/hepatitisc.pdf>

For more information about hepatitis C virus infection, patient educational materials, Maine specific data and resources, please check out: <http://www.maine.gov/dhs/boh/ddc/IntegratedHep.htm> or call 1-800-821-5821.

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Contributed by Mary Kate Appicelli

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